

Idaho 15 Jan 74

Dear Perry

O, yes, you can wait a month
before you answer my anxious
solicitations about Juniper —
but as soon as you want
my assistance about that Society
I must quit every thing else,
Juniper especially, and jump
into your yellowstone quagmires!
Oh, human nature — !

Well, I have a mind to
punish you and abolish
that Perry's, and restore it
to Bolander — — — Perhaps
time (two weeks only allowed to me
by you) may assuage my wrath
and I be able to judge im-
partially. We shall see

But seriously, are there
no Junipers in the Yellow
Stone Mountains, or did you



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A Carr is in Europe and DC not in Utah,

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nor going to
Jan 15, '74

consider them common things, not
worth while the trouble of DC & Perry
— more so — I suspect that all the
Junipers you see there, are *J. occidentalis*,
perhaps mixed with *J. Virgin.* I like
to see that Sabina — ♂ & ♀ I have
the same from Fort Union ^{yellowstone} & from Mackinaw.

I have written to Hooker for
fragments of the original Pursh & Douglas
plants of *excelsa*. The Berlin people
ought to have answered before this
and send the Mexican species, which
run together with ours. I have your
pachyphloea from Gregg from Saltillo
and suspect it is one of the Mexicans.
The matter must be settled now
— "if it takes the whole summer" —

By the way our friend in W. who became
famous by that expression ten years ago —
seems in trouble — poor man — I cut out
some thing for you — you was not up to the
thing — only Brussels Carpet — — no Landauet!

Yours ever G. Engelmann



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Your Certificate has no value. I take it for a small amount.
 I have no California. He it is wanted!

My dear Pamy

A few days ago your letter and the box purporting to contain "*Yucca angustifolia* and beetles" arrived — safely — i. e. letter and box safely, but contents were fully transformed — whether this *Yucca* is another insect feeding vegetable or whether the insect has eaten up the *Yucca* is uncertain — as there is nothing but a stinking putrid slime. You have seen or heard of the insect eating *Drosera* *Drosera* and *Sarracenia*, which Gray is popularizing now in the *N.Y. Nation* and *N.Y. Tribune* — publishing Dr. Mellichamp's observations — So you see I am now somewhat insectivorous. But jesting aside — and it was no



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just, at least no good joke, to
small that Box or can - reminds
me of a Florida Quercus. I got last
year from Mrs. . . . in a similar
terrible condition; she was quite
offended at my ^{offactory} & being offended by
the effluvia - and by expressing
such words. I hope you
will not be so ladylike - tender -
skinned. - Try again! but don't
pack so close and airtight.

I wrote - May 21. 24 & 29

Since first I ventured out of J. W.
my headquarters and prison, crossed in
(as with wife) the mighty Mississippi
but not on the bridge (which just
now turns the brains of my townspeople)
and made a pilgrimage to the
vignards ~~of~~ my friends in Alton,
which were just in bloom - the
vines, not the friends, which ^{later} ~~smoothly~~ are
with the bare & yellow leaf - though with large



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June 16 '74

blossoming daughter. I examined
many species of varieties and
hybrids, made the acquaintance of
the root lice, phylloxera, and hope
to return in September to taste the
fruit—for taste and investigate.

You see that I have nothing worth
while to write! No botanical dis-
covery.

The junipers and Oaks & Vines
languish in the hot weather.

Give me a description of your
Yucca angustifolia. My specimen has been
in bloom: green, green stigma; raceme
very dense, compact, cylindrical, with
few branches, rising from between the
leaves almost without a naked (ped-
uncular) part of the scape. ^{petals} _{brim over}
No moth and no fruit!

My *Y. elata* from Arizona has
a long naked scape—loose
large panicle, white flowers with



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narrow segments. Do you see
transition forms?

Glad you study that *Urtica* *Ar-*
jovica — it is supposed to be too
near *repens* by some, or too near
Californica by others. How does it behave
size at its.

So you expect to leave St. George
soon, and this will perhaps be the
last letter you get there. I shall have
to write to Tell later on.

Thanks for your care of myself
and wife — that Colorado trip. Will
it come off? I hope so
but I don't know.

About your *Cactus macranthus*
I have reported in full. —

Hope to get living *Op. Schottii*
from you. How large? — flower?

If Johnson would plant joints and send
in fall or early spring, when rooted? — You
Op. reticulata are growing. — Have the same for *Ret.*

Remember me to
Johnson

Yours truly
G. Engelmann

Urtica repens has no seeds. I take it to be a small & short
Urtica Californica. Fruit is counted!



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Corolla lobes upper lip
2 parted spreading lower
3 parted, larger.
stamens² project each
side larger than the
corolla a little shorter
than the slender 2 parted
style, filament joined
near the tip. anthers
linear 2 angled curved
over the anther
rudiments of stamens
attached on each side
of the upper division
of the petal
seeds large slender
smooth mostly all but
one abortion



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Flowers disposed in
dense whorls a series of
dense whorls at the
extremity of leafy branches
naked above mixed
with light colored bracts
outer bract orbicular
obovate 3 nerved ciliate
inner bract ovate, outer
fl short pedicellate in the
sessile. Calyx 3 cleft
upper lobe broad truncate
folded & partly embracing
the corolla. 2 lower lobes
smaller, all distinctly
nerved glandular



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leaves curved in the
summit of the branch
forming tufted fascicles
tuffose, ^{leafy} elongating in
leaves spatulate or
obovate, deeply to
a narrow petiole
densely covered with a
close scaly scurf

Habit growing in dense
shrub ~~and~~ clumps
much branched 1-2 ft
fl light blue bracts
greenish purple
whole plant with a



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Heavy stem of *Soy*
growing in loose soil
fl in April & May

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Corona composed of 3 pair of
petaloid scales ^{as long as the lobes of the perianth}
on the lobes of perianth ^{in a triangular position opposite}
in a triangular position opposite
the inner ^{alternately} lobes of the perianth
each scale of the corona
distinct to the base linear
lanceolate the largest anthers
occupying the cleft between each
pair of scales. the shorter alternate
anthers attached to a shorter
distinct lobe of the corona
slightly sessile 3 lobed - as
high as the top of the largest
anthers



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3003 Lount Adams 30 June
74

Dear Parry

Fortunately I am not
near enough for that *Q. Emoryi* edge,
but your magnanimous intention, to
make me thoroughly acquainted
with that interesting species [woud you
elaborate an article for the NY Tribune on
the plantation - destroying qualities of *Q. E.*
(under *Q. E.*)
fully as interesting as the insect bearing and
dreadful *Serravallo* ?] deserves
my acknowledgments, so I will meet
you half way - say at empire city
July 31st! We shall go, if my wife
can make the necessary preparations.

Well, I write to tell you that
Alnus canadensis is a trump - fl. - Jan?
certainly distinct from *grandis*; but
whether it will suit the California Big
Tree so called *ancubilis* or *magnifica*
I should like to know - that must be
traced by geographical assimilation



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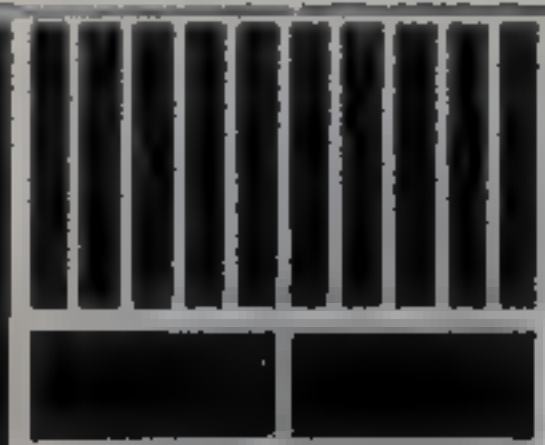


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The latter I have as near you as Carson
Pass; can't we jump from there to the
Rio Virgen and Sierra Blanca? — Of ^{course}
if there was botanical identity, such
questions would not come up — but
there is some difference. — A knotty genus,
Abies! —

I hope you have instructed Chaskey to
get you ripe cones for us and for
the young customers of Conifers seeds
of their species — they must sell
better than any thing else. I have
cones from Fowler, but they are small
immature, and not to be relied on as
characteristic. — Pay him for his
trouble & expenses — or let me
do it.

Now for the other proposition. I
think it a good idea to advance
Johnson money to be able to get
all these things: *Agave* — *Yucca*
brevifolia, *baccata*, *angust. elata*
x *Casti*



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30 Jan 94

but he must take trouble to plant them
in his garden, make them strike good
root and then pack them well at the
proper season. Such ~~have~~ ^{are} ~~scarce~~
sending as you do to me at any season
and in any condition, won't do for
commercial purposes. — Opuntia

do not pay in Europe, are not saleable

Why have you not sent root plants
of *O. echinocarpa*? ^{ripe seeds will be well come!} Or are 2 little

things I got in spring this plant; one
of them is growing; & while I had living
from Palmer and a G. raised from his
seeds. — Agave and Y. bro. seem to
be growing, the latter will, I hope, pull
through. —

The deciduous Quercus is probably *Q. undulata*
Quercus evergreen. — But here cometh
a new sort of Quercus — *Quercus* —
and sends from Canon City an oak - fl
which must be *Quercus* — but he says it
is not evergreen and tells the transition



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between it and undulate are found there.
Must write to Brandegee and make him
test this pantaloons; if they split it
is *Onorzi* — if not, it must be a
small leaved form of undulate. What
say you to that bot. character? worthy
of Linnaeus? —

Lewison brachyculyx is a nice
rediscovery and completion of char.

You can write to Johnson about
my entering into your plan. A bushel
of ripe seeds of *Abies concolor* could
be sold in Europe well, I would warrant
and risk the advance of \$20 on that alone
with pleasure but they must be ripe
and sound. *Abies* seeds are very often
empty. You know best whether the whole
cone or the seed ought to be got. Many
men are very particular that the seed
ought to be fully matured.

I wait letters here, until I order
otherwise — if you George will send
them after me

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Yours very
G. Engelmann



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3003 Louis Str. St. Louis Febr 17 1874

Dear Parry

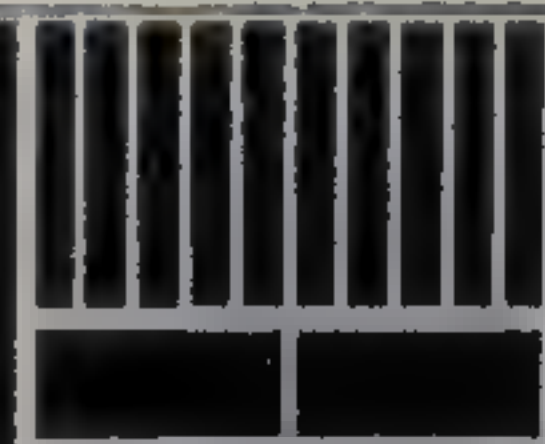
Shame on you! Here do I send
you a fresh branch of Junip. osteosperma
Can't I botanize? Can you beat
that? Well, this branch is just
10 days from the Santa Lucia Mountains!
What do you say to that? With it
came a fresh Pedicularis densiflora
just starting into bloom! And the
other day some live plants of Yucca
Whipplei!

Isn't Dr Hays a correspondent
worth having? A western Dr. Milliken.

He promises to work up the oaks of
his region.

You have seen more of Junip. phaeo-
phloea than any one else — and still
— O, I get mad at you — you
do not tell me any thing, must
pump & pump!! pump!!!

Be it pump then.



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x It is strange that *estesperma*, that plant of the Coast range is found again in Juni - no doubt of it (Woodhouse - Arizona).

All other find *J. puberula* from west New Mexico to Arizona - Wright's localities I suppose nobody knows; there are 3 numbers of his, belonging here; of course somewhere between west Texas and Arizona. Sitgreaves (or rather Dr Woodhouse) says: thick bark, but Emory is the only one who gives a reasonable description of the bark in the words: "large tree with bark resembling pine". Nobody says how the wood is, soft, red, aromatic - or hard, whitish, etc. And what does the great traveller Dr C Parry say? Pch - what?

Where is Mount Carmel on the Rio Grande? where you collected the same species?

Did you find it within the limits of California? I find no indication of it either in Torrey Herb nor in Bot. Board.

When you get into Utah, have an eye on *Juniperus*. Perhaps the only one you may meet with, will be *J. occidentalis*, a very variable plant - Bark and wood as well



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7417 74

as berries to be watched.

Well, it is ^{very} possible that I
may get to Colorado in June or July.
But Colorado without Parry as guide
will be tristis. — What would
you advise me to do, how to
go on — I shall go with my
wife, you must know, if I go
at all. —

Some german nurseryman wants
40-60 capsules of *Yucca brevifolia*!
I told him, I have seen fragments of 2
of Bigelow's 1853 and one of Palmer's
or Johnson's. — ~~But~~ if you can get
60 or 6 you will make many
persons happy. It will be an
elegant thing in cultivation. I had
a fine seedling (Palmer's seed) but
lost it last winter.

My sp. of *Echinocystis Johnsoni* is
also dead, and, and, and — the
only *Pecten Aboriginum* I had — you



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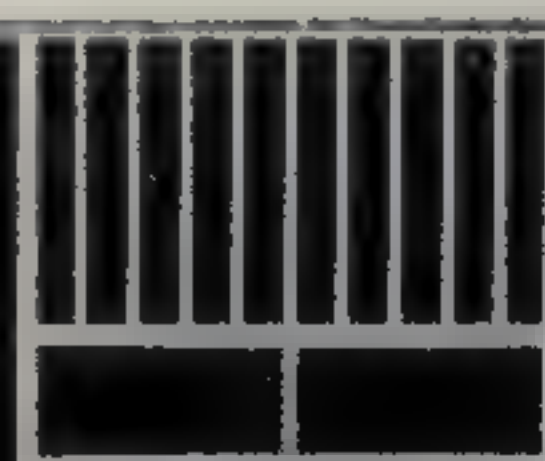
sent it to me from Washington 2 years ago
but Cor Palmer & Tharben are doing
well.

Let me hear from you!

Yours ever

G. Engelmann

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St Louis March 9 1874

My dear Perry

I was writing for fuller
"Instructions" but in vain, and
as you threaten to leave Grayson
and Temperance women and
botanical friends behind, "by
the middle of March" it is high
time I should remind you of
your promises.

I have been ailing, at the
same time professionally busy,
so that not much was done in
botany; still Imperi are
interviewed Summer practical.
Kew has sent her treasures,
Berlin is announced - so that
we shall be in a position, where
the world will expect a
final Revision - awful!



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Meanwhile I have found another good friend in Arizona, an Arizophys. at Camp Apache, Dr Girard, who has made my thirsty soul happy (Juniperus, Genève, Gioia) by sending another fresh, mature Juniper which was not unknown to me in Utah Nevada & Arizona, but not well understood, till his fresh material, ripe fr. & male fl., taught me to understand it. I am inclined to take it for a new species. Look out for it in St George - large globose palish, dryish fruit, 1 seeded. I have of course written back for details, biology, ripe fruit, wood etc etc. The man will to his sorrow find out to oblige a searching botanist!

Juniperus ripe fruit - second year like Pines, but unlike pines the fruit fully develops 1st year even the stone of the seed, but the embryo takes



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Mar 9, 74

good a good part of the 2^d year to form
and mature. It is the rarest thing
in Herb. sp. to get ripe fruit, with
good Cotyledons - This Arizona thing has
4-6; most others have only 2, except
Torrey's *tetragona* var *osteosperma* from
Calif. ^{which I sent you the other day} also with 4-6 - also with a
^{reddish} pale dryish large fruit. You know
most Jan. have black blue rather pulpy
berries - These are dryish, fibrous,
ashy reddish - perhaps both belong together.
Look out for these things.

J. pachyphloea is an old Mexican
thing - & perhaps even *strobilata*!
Now, verrous.

Full notes about my pets are
expected for you under pain of
excommunication if not decapitation.

I call *J. osteosperma* provisionally the
form which Torrey names *J. tetragona* var
osteosperma; that was a misis of
Torrey's. It has nothing in common
with *tetragona*.



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Isotria & Marsilea and Chara - you may
look out for - more for Cacti - still
more for Yucca - Juncus is stale
and so is Euphorbia & Cereus with me.
Artia ought to be looked after carefully -
Juncus probably not much to be discovered
except the limits of variation of the
different forms and geographic extent

I only recollect that you spoke of a piece
of Yucca brevifolia trunk - never of Juncus
at Pac. R.R. Office. - Your sp. of J. pachyphloea
from Mt Carmel is in Herb Torr and recorded
in Journ. Bot. - so, there is probably no
mistake - or is it a case of Parry vs Parry?

No, we want to spend the hottest
term in Colorado, by back by August.

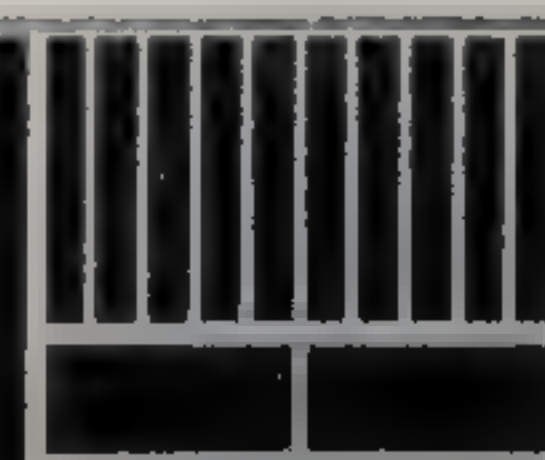
Is it "Taylor's" in Idaho, for living
Peck in Empire City
Beebe house in Idaho?

Ought not Colorado spring be visited?

Let me hear from you
soon!

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Yours truly
G. Engelmann



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March 14

74

Dear Parry

Thanks for the notes rec^d
yesterday. I would not have
answered yet, but written to H. George
in a week or so, but for the receipt of
those "cones" in the shape of Convolvulus
seeds this morning! Some blunder
I guess in the hurry of preparation.

Don't forget Yucca seeds
Agave seeds

Agave and Yucca sprouts

Agave especially is long lived
bears months of packing and storing
away (perhaps not in mid summer
though)

Yucca brevifolia !!!

flowers never seen!

Only plant ever raised
by me died.

I got several whipplei plants
from California in winter, which
seem to do well.



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Mar 14 '74

Letters are, of course, now
in the ascendant and any thing
you can do will be very acceptable.

Not forget *Chenopodium*, Date
always! Cacti

Well there is no end to good
advice, and I better shut up.

The sickly *Ech. Johnsoni*, you
sent me from Tishtry 2 years
ago, is dead; *Mam Arizona*
which Johnson sent in full bloom
when it arrived! Last spring
lives, sickly. See that we get
all these things. *M. Ariz.* is a
fine red flower. *Coryphantha* - fl
as large as *Poleboranther*.

And now happy voyage
good luck and every thing nice
and fine

Yours truly
G. Engelmann

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St Louis April 17 1874.

Dear Perry

The above notes have been put down
according to opportunities. I have
received your *Pror Juniperus* and have
reported on it; it is the same collected by my
brother 15 years ago at Camp Floyd right
opposite, west of the lake. Also your *Pinus*,
arbutifolia without *Arceuthobium* from Beaver City.
Yesterday I got a box of *Lomatium*
collected by G. K. Gilbert. *Luzenian*
in Lieut Wheeler's *Expedition* - in it
incidentally interesting *Compositae*
Juniper Virginiana & ^{*Utahensis*} ~~*arbutifolia*~~.

Phor flavescens var on diff. plants, not on *Conifers*

Ph. juniperina on diff. *Juniperus*

Ph. Californica on *Algarobia*

Arceuthobium on *Pinus Engelmanni*

Pierra Blanca Aug 13

Arceuth. *Pinus Engelmanni* eastern Slope

Pierra Blanca Aug 22

A. robustum, our old friend, on *P. ponderosa*
Camp Apache Aug 29



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Arceuthobium on Abies Douglasii
" 15 miles N Apache " Aug 31
Arceuthobium on Pinus edulis, Salt Run
Valley, Sept 8.

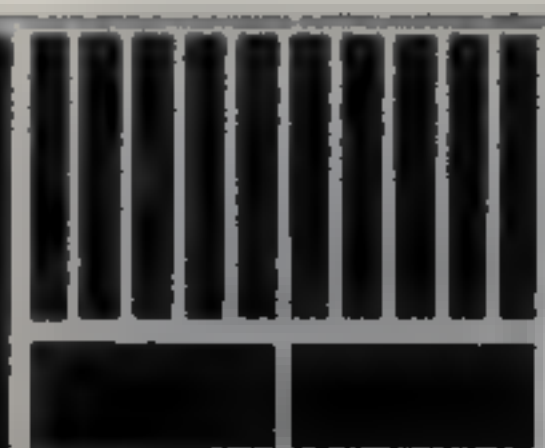
we have here the interesting fact of
Arceuthobium on two new Conifers, A. Douglasii
and A. Engelm and also the geographical
extension of P. Engelm. Southwest.

You will know better where these
localities are, and see that you
will have to look out for your
glory. These unbotanized
Collectors sometimes hit things
that our "botanists" have missed
vide Mr. Millington, Dr. Wiegman,
Dr. Gregg and others. They do
not take things for granted - for
old and stale - every thing is new
and interesting to them.

I have nothing more to add
until I hear from you again.
Respects to Johnson

Yours ever,

G. Engelmann



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Parrish

Apr 17 '74

Juniperus pachyphloea of Arizona, well known to you, is most probably ^{the} same as the Mexican *J. flaccida*, the bark of which is nowhere mentioned; but it is described as a large tree with pendulous branches. Any thing like it in the Arizona plant "tree or shrub" seems to be more dependent on the locality than the species.

"I have received your kind and instructive communication etc." Dr. J. F. Astor. So you see others are "instructed" as well as yourself. Dr. R. is going to Arizona as Surgeon & Botanist to Lieut. Wheeler's new Expedition.

I must again direct your attention to the mature fruits of *Juniperus*. We hardly ever get them in the Herbarium, and then they are dry. I suppose they mature in the second year about August to October.

We have evidently two very distinct kinds of fruits:

1, black with strong whitish bloom (wax) which gives it a bluish appearance. Soft, pulpy, and sweet, edible (if the numerous oil receptacles don't make it unpalatable).



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there belong *J. communis*, *J. Virginica*,
J. occidentalis, and the Mexican *J. tetragona*

and 2. reddish with white bloom, always
larger than the last, tough, dry and
fibrous, also with alveolates; here
belong *J. osteosperma*, ^{Mexican} *J. purphylla*,
J. flaccida & *J. Mexicana*.

It is remarkable that the number
and size and shape of seeds is extremely
variable; in Mexican species I find
from 1 to 10 seeds!!

So you watch and inform me,
especially about the nature of the ripe
fruit of the different species, colour
consistency, texture. Only in the
ripe fruit can the Cotyledons be seen;
they are said to be 2 (or ? 3)
^{in all Suripari}
but in *Osteosperma* I have
found 4-6

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please notice always the colour of the stigma - Yucca - *argentea* has deep green base is the
Aripan form. Y. A. clata
in this respect?

3003 Lant the Missouri May 24 1874

My dear Parry

More packages! Many
thanks! I have ventured to send
at once a Yucca and an Agave to Berlin
where they will arrive about 5-6 weeks after
leaving their Western Deserts. Will
they grow?

Now for that splendid Mamillaria -
Coryphantha! You missed it this time
with *Echinocactus mamilliformis*! It is
as good a Mam. ^{Coryph.} as you ever gathered
at Frontera. - The smaller specimen is
perfect and had fully developed flowers;
the larger one shows to what size the
plant may grow, but is less likely to
succeed. - You will have to supply fruit yet.

My difficulty about it is its close
relationship to a Mam. which friend
Johnson sent 2 years ago. and which
^{June 20th} arrived here in full bloom - ^(later than chlorantha) with
larger deep rose red flowers!



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at the little: M. and about 1/2 inch long with
and the nature is. - As I have seen the
in some hands & then I thought
green? Green? form of a single?

but it is in every respect so much
like your plant, that I am uneasy
about them. Johnson's had also been
collected by Cones & Palmer, and
had been named by me M. Arizona
I suppose Johnson has got living
specimens of it, so that you may
compare them side by side.

Both have numerous straight stiff spines:
white midrib and brown tipped reticulate,
a few fringed sepals on ovary, strongly
fringed linear sepals and linear
aristulate petals.

The differences are as they appear
at present:

M. Arizona	M. chlorantha
larger looser mamillae	smaller more crowded
15-20 midrib 6 interior sp.	20-25 midrib 6-9 ^{inter}
flowers 2 inches long, rose	1 1/2 inches, greenish
15-20 exter. 15-20 inter sepals	10-15 ext 12-16 inter
40-50 petals	20-25 petals
seeds brown, pitted	seeds? the same? /
fruit oval green	



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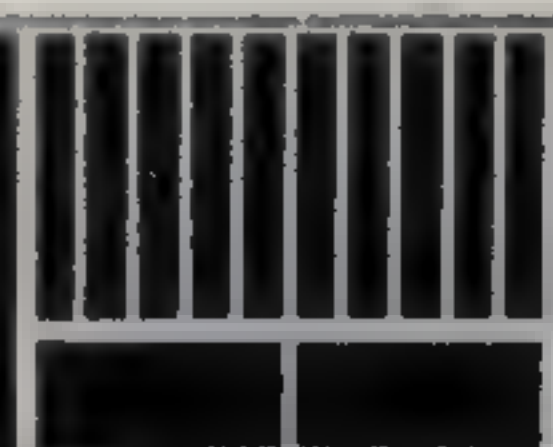
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May 26 54
A slight difference in the number and
size of parts and colour of flowers.
You may be able to compare both
living and possibly decide, whether
2 species or 2 forms of same sp.
The colour of the flower alone would
not decide me in favor of 2 sp.

The only question to solve about
Joshua is the fruit. Is it erect
or pendulous? how does it appear
before maturity — how when fully
ripe? I feel some anxiety about
this matter. The only fruits I have
seen when Bigelow's fragments, coll
in midwinter, and Johnson's obtained
in spring — both old and dried. It is
not impossible that the fruit is pulpy
after all, what ^{dry} spongy mass. I saw
had undergone the action of the water molds.
— now ~~decaying~~ ^{shriveled}! — If it is
erect or pendulous you will find out
as soon as you see the young fruit.



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for it assumes the final position a few days after blooming & fertilization.

What Oaks do you meet with?

Q. Gambelii with leaves much like post oak
Q. undulata } both
perhaps } not really
distinct? } intermediate forms?

Quercus Emoryi? evergreen, with
small entire or spiny-toothed leaves.

You have not mentioned oaks yet.
How about Junipers? Dr. Grand
of Camp Apache
tells me again of *J. Uginiana* but with
scaly brittle bark - not fibrous like ours.

He has left Apache for Tucson, now
in the heart of the Chave country, I think.

Do you hear from Gray and other friends.
The Calif. Survey and thus the edition of the
Botany etc. is all broken up. Watson
has published a good monograph of
"American Chenopodiaceae" - Obione is
reunited to *Atriplex*. Gray does write
I think he works on Calif. Compositae.

Respects and greetings to Fisher.

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Yours ever G. Engelmann

please notice always the color of the stigma - yellow - *Arctostaphylos* kind. *Quercus* is the



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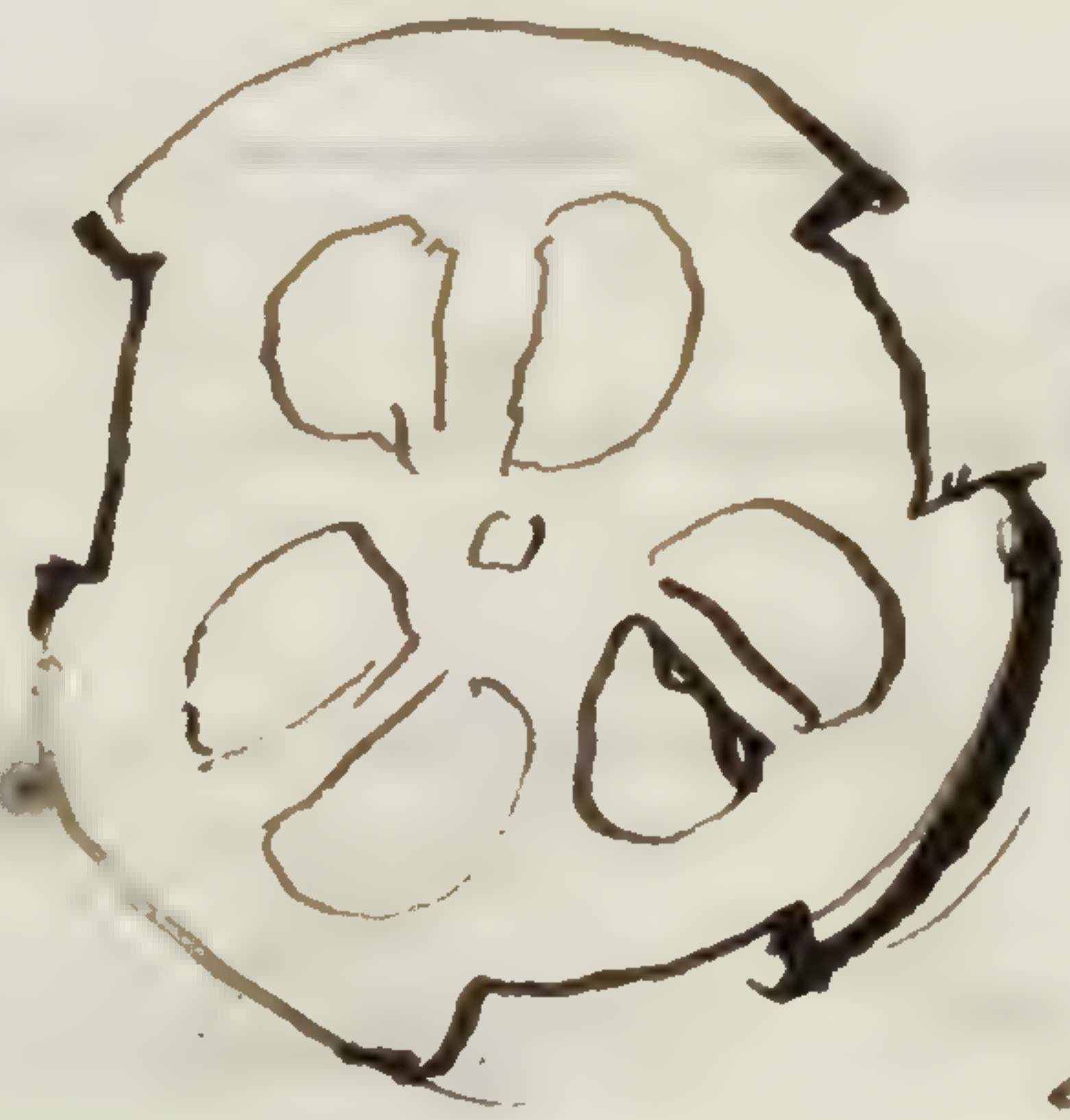


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3003 Locust St. St. Louis May 29th 74

Dear Parry

got your P.C. & big
package — thanks! — flowers unfortunately
dried & broke to pieces — bracts
show very freely. Now, watch the fruit
You can soon see whether erect or
pendulous — and then please make
rough sketch — also of the section
Yucca alopecuroides has such a section:



That Mamillaria chloranthus
continues to bloom and
I had to alter description
a little: Exterior shorter sepals
15-20 interior 15-18 petals 20-25
stigmas white 9-9 —

I have written to you yesterday
or day before, and mentioned oaks,
I find that weeks ago I wrote
the other page on oaks, and neglected
to send.

You, more too, are sparing in
information. Write me a glowing



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article about those deserts and
the Yucca in it as principal feature
(which I can publish in *Transact.*)
Where is Beaver Dam Mountain?
My maps place St George near the
S.W. Corner of the Territory, say
12 m. from the Southern and 25 m. from
the western line, and near the Rio Virgen,
not far from the Sta Clara, names
familiar through Fremont's tramp.
31 years ago

So you are going - or have gone
to the Canons of the Colorado and
may have found nice things - other
Agaves etc etc. I do not repeat
questions about *Y. brevifolia* etc.
Suppose you are too busy in
harvesting and preparing plants
so that you can not write.

I have found Yucca ^{brevifolia} seeds eaten
just as our *Y.* seeds are - so conclude
the moth larva must be there -
but there may be other modes of feeding.
Greetings to John yours truly
J. L. Davis



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Parry

May 29 '94

Does quercus Emoryi come up into Utah?
Look out for the evergreen annual fruited oaks
Palmer has one from "Fossil Creek" which is
probably same as Emoryi, but leaves 4 inches
long, 2 inches wide — usually leaves only 1 inch
long, acorn long peduncled, long pointed —
sometimes apparently globose — Have a suspicion
that all the evergreen ~~of~~ oaks of that
region are identical — small or large leaf,
entire or spinose ~~point~~ toothed, acorn
sessile or long peduncled, large or small
globose or long pointed — Look out!
— I find that even the cup of the gland is very
variable — usually thin & only a little
thick & only a little knobby! where are
the characters?

Q. Emoryi occurs in Canon City Southern
Colorado. I do not know, but suppose
that some of the Californian scruboaks,
also belong here — but where is the
limit of species?

I suppose it is useless to initiate
you in the minutiae of oak characters
but you may observe and note



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"You speak of 'the big black oak' in Colorado, a good deal
when I go to it? I only heard from E. W. Wiegman of it.
The above is all you have to say is it?"

The stigmas. I find all the true
white and live oaks with sessile or
subsessile stigmas (persistent and
therefore visible all summer), thus:



or



while all the
oaks of live oaks of live oaks
fructification have long styles, & flower



Are there any black
oaks in your region?
I know of none in
Arizona.

I have *Yucca angustifolia*
with greenish flowers in a compact
various here in bloom.

What do you call a "mite"
crawling over the flowers? I
know of 8 legged cheese-mites and
scabies-mites. Worms crawling into
the cavity is new to me.

Are the petals always so fleshy
and narrow, as they seem to be in
the dry plant.

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St Louis July 5th 74

Dear Parry

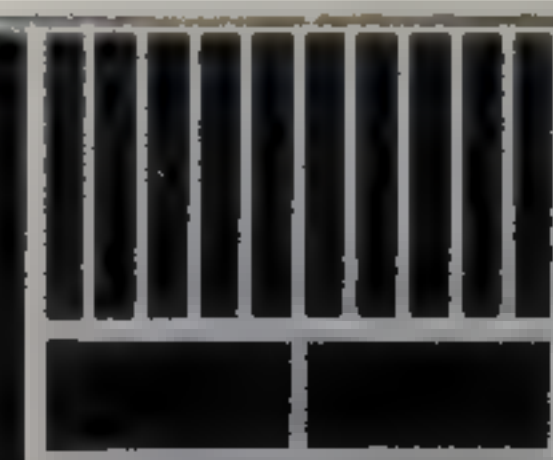
I wrote to
Cedar City, June 30, which is in your
hands, I suppose.

Your of June 23 from St. George
"Cash Blast" came by before yesterday.

I write only to give sign of life.

We propose to leave abt 17th or 18th
for Denver and direct to Empire
City according to your direction;
rest there a while till the active
mind & body can not stand
it any longer — see Colorado
City where friends & patients
are — possibly Canon City —
and then return. How long the
whole thing can be stood, en-
dured, I do not know; will
try.

So you expect to be in Denver



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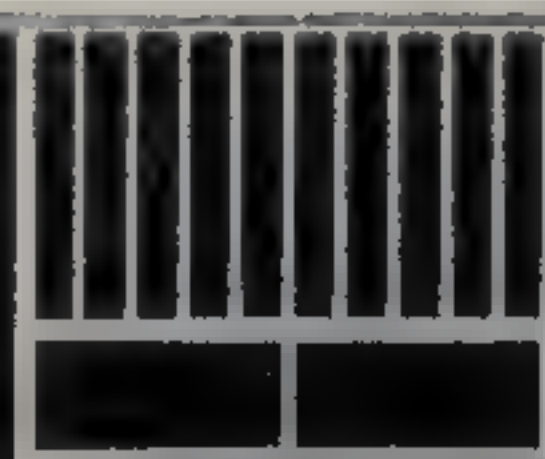
about last week in July; which
may find us there also, coming
from here; pity we have not
made an appointment. I shall
call on Dr Whitehead of Denver
who has written about Asthma
cures; will probably not stay
in Denver more than a day or two.

I will write to you Post Card
to Denver P.O. ~~do this~~ as soon
as I know exact date of
arrival — do the same on
receipt of this. I will call
at P.O. for letters.

Vitis Arizonae is good;
J. Watson wants to make it
= cestralis, but think so.
but all vitis threaten to
run into one another;
dangerous rioters!

Yours ever

G Engelm



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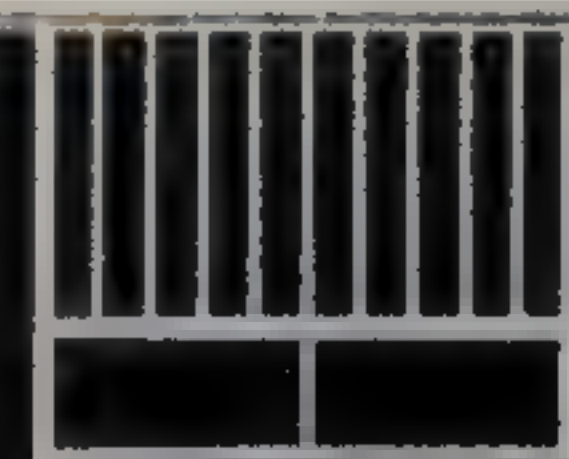
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July 8, '74

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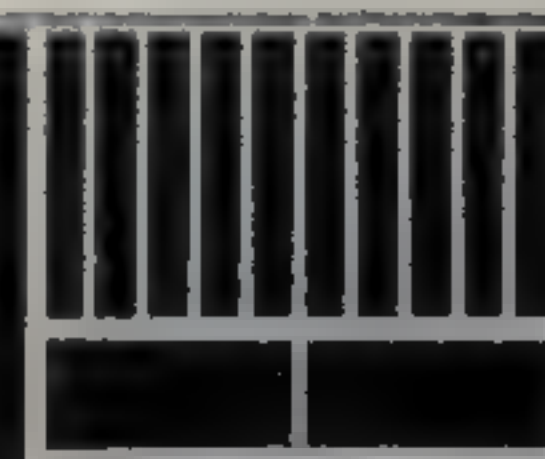
St Louis 17 July 74

Dear Parry

got today your card of
Cedar City 7th - also a curious Yucca-
fruit - yesterday your "Cedar" I have
told you that the species is *J. Californica*
var. - This last in fruit was just enough
advanced to study the seeds - confirm
previous observation that this is the only
species with numerous (4-6) cotyledons.
The large Californian from her off C.
Good!

I want to know more about your
nice little *Asclepias*, about which I
have written. Growth? Root? But
why ask questions which you will ask
answer now - and when I have you
I will hold you to it! I want to name it
Mellichampia
in furnished also a new *Asclepias* to me.

It will interest you more to learn
that I am just up again from my
rheumatic attack and will be able
if nothing intervenes to go ^{it} 21 or 22^d
or at least 24th to Denver and Poudre
so that I shall just miss you there.



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17 July '74

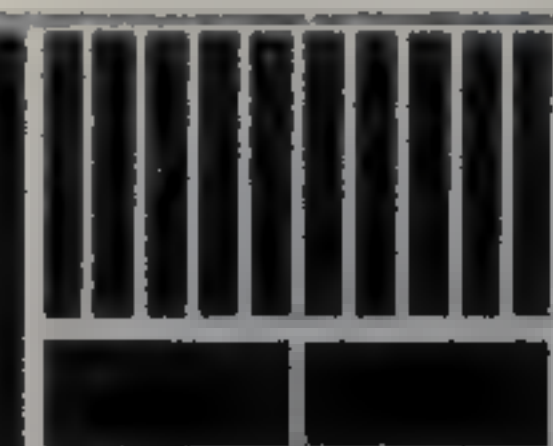
But shall look for letters at the
Post Office. will probably stay a day
at Denver, then go to Empire -
will write to the Cantor there
today. -

I will leave a line to you in
Denver, and you write to me there
to Empire. -

Yours ever

G. Engelmann

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St Louis Octob 10 1874

Dear Parry

Yours of Oct 8 came
this evening. We arrived as per
programme without any accident -
pleasant weather and pleasant trip
with the exception of having a number
of invalids on board.

Found here a good deal to do
and patients enough; so much so,
that Saturday evening at the Depot
my buggy expected me to take me
right away to a patient! Thus
I have not been able to get through
with accumulated business to read
and answer letters etc etc - much less
to study plants; but will attend to Egypt
soon.

Your Concolor Cores are younger
than Siler's, but even his do not
fall to pieces - May it not be a



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peculiarity of this species That
it don't come to pieces as readily
as others? Your & Siler's sp. have
broader and stouter leaves than mine.

I am afraid it is too late now for
Siler to collect the seeds. Nothing
of ^{The} Johnsons.

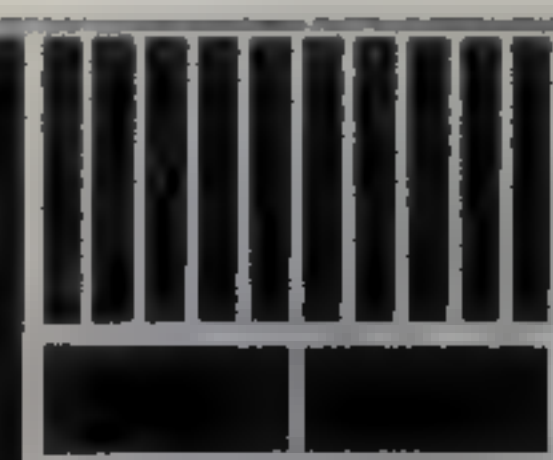
That new Shepherdia is very
interesting.

My Alnus Cones were kept
too damp and moulded a little;
but the fresh leaf specimens
kept well; the acorns germinated
and I put them in damp sand
— hope to raise *Q. undulata*!

Have you a ripe cone of
Erythraea? We will try to raise
it here — or *Douglasii*? but those
you found in my coat pocket (what
was the name?) may do —
I must find good *Erythraea* seeds
also.

You say: Mrs. J. Walker about *Shepherdia*
I would like to hear from him; does he write you?

Did you not intend to write: Mrs. J. Walker about *Shepherdia*?



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Oct 10 '74

The living plants are
all doing well — *Oxytropis splendens*
made abundance of young leaves
and *Artemisia frigida* looks very
promising; — by next summer
I shall have all Europe around
me ^{here} and need not go there again.

Anything you may write me
about Duran is of interest.
How does he get along in Canton?
What does he say about
Bradegee, who I expect
will have to be his main stay.

I do not think Remy published
any thing. I found a few *Euphorbia*
& *Cuscuta* — the only thing I was
then looking up — in the Paris Herb.
These plants are occasionally quoted
in the later vol of DeCand. Prod.
but nothing about a publication;
Mollenkamp, Bentham say,
we have to give up.

"You say: Mrs. P. talks about Duran"
"I would like to hear from him." Does he write you?
Did you not intend to write: "Mr. P. talks about Duran?"



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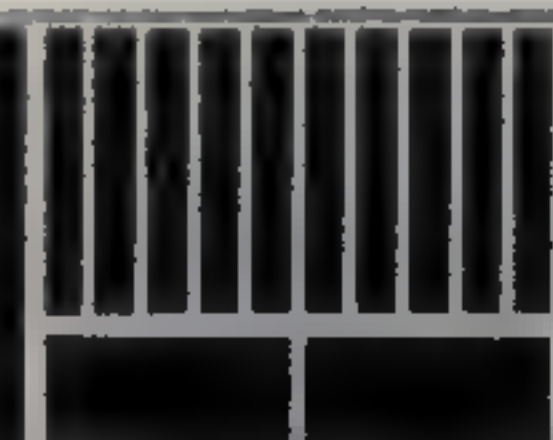
I find that my ^{living} plants have
been a little too well watered.
Caladium & Cannas are splendid,
but Yucca brevifolia, Agave
Ut. & Cacti are suffering
and it will be hard to keep them
alive through winter.

Found it better to shingle
and bandage my wife's wrist
again for a few weeks; so
Colorado is a miserable Country,
Lindstrom a brute etc, "fide
Ballou" — but fortunately we are
not so splenetic, and take matters
pleasantly — or as a friend of
mine is in the habit of expressing
it: we can afford to leave
the ills of others with a good deal
of resignation (for example
Ballou's ills!)

Must write to S. her this evening

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Yours ever
Respects to Mr Parry
from both of us J. Engelm



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St Louis Oct 23 1874

My dear Doctor

Thanks for that beautiful
section of Junip. Calif. var. White
127 years old, 4 inches diam.!! Not red
nor fragrant — or only slightly so. I am
waiting yet for the Canon wood of
Iccid. Have not heard from Brad,
nor Duran. nor, as for that, from
Mr P.; shall wait — but as to B:
Porter writes me that he got from
him a sp. of A. Concolor found
since my sojourn there — thus
connecting the Pikes Peak with the
New Mexican localities — no doubt
a common plant!! — But as to
Grunds? The whole thing must
be revised — no time now

Quercus has puzzled me and
is puzzling still. Are all the Colorado
and all the western ^{shrub} Q. identical?
The foliage says no, the acorns



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yes! i.e. they ^{the acorns} are variable in all
the forms. I am hunting up all
the forms I can lay my hands on
to compare — Yours from Utah
will be welcome. — When shall I
get my set? — ~~but~~ why ask?
I find no time to study them —
Patients take some time — friend
come more — Night fatigue spoils
another day — then come unavoidable
things — (thus the last few days the study
of a suit of Cult. paper sent to me
perch). In that way valuable
time is frittered away. — Gray sends
me several new western Gentians
for me to work up — by the way,
he fights against my Gentian-
placental — "theory", as he calls it.
Will have to examine more to
prove or disprove.

Got a nice map ~~from~~ ^{of} Hayden
Colorado from Washington — apparently
good — Heights of Mountains given.



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Oct 23 '74

Gray 5 feet higher than Ferry. ~~Roslin~~
1 foot higher than Roslin — only
Mt Harvard (west of upper Ashurst)
42 feet higher than Gray. Lower
10 feet lower than Roslin.

As to August still of. Herb
I surely need not go to Swampy;
my stable claims procedure

My 6 Concol seeds are almost
all empty; what I examined had
5 and 6 Cotyl! The Empire grandis
mostly 4.

I sell down Cretaria (never forgetting
poor B.) as I do ponderosa

Watson I see does not transpire
still less dispose, but Confuse
A grisea con (amabla)

A capital joke that you poor
innocent must help to increase
Confusion — your cones & seeds

Concolor!! Capital — Confusion

Side 1838 (Douglas)

My wife has her hand bandaged



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yet or again - no hope of getting
well before months! if come.

Another "trait in the character"
of Concolor is the adherence of the scales

S. leri's, collected Aug 17, do not fall
to pieces while my "grandis" coll
Aug 14" have done so. Even my Glen eye
sp. only reluctantly do part (Sept 21)

I got today from Lapham the Trans.
Wisconsin Acad. vol 1. p. 117. Confusion of the Rocky Mts
by J. G. Knapp - a horrid mixture of crude assertion
ignorance; but I find the note that his *Abies* Neomexicana
with long leaves and large cones grows "near the
summit of Sangre de Cristo Pass 11000' alt." - which
can that be? the *Erythronium* pine is often mentioned, but it seems
provisional - *flexilis* has 6 inch long leaves 100 ft.

Tell me again where you found the two *Abies*
you sent from Utah. One, *grandis*, was collected
just after flowering ^(when?) the other, *concolor*, in
July - what was the altitude of either?

Have you have seen? I do you
like so much.

Yours truly

J. C. Coulter

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I find that I almost equal you
in (Kalli) Kalligraphy - will try to
do better.



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Soaked, I get a good many good flowers from the
lot. The bracts, repeatedly sent by you are
remarkable - the flowers similarly thick in
texture, I would call the segments oblong linear
obtus - Stamens short, at last recurved.
A Sphaeria or other fungus abundant on the old
leaves. - I hope some of the live specimens
will grow - sent one and an Agave by
mail to Berlin, where they will reach in 4 weeks
from St George - They go in the same way as our
Mails carry them 24 ounces for 36 cents 47 p.c.
cheap enough, Johnson ought to raise Agaves
Cacti & Yuccas I think he could make something



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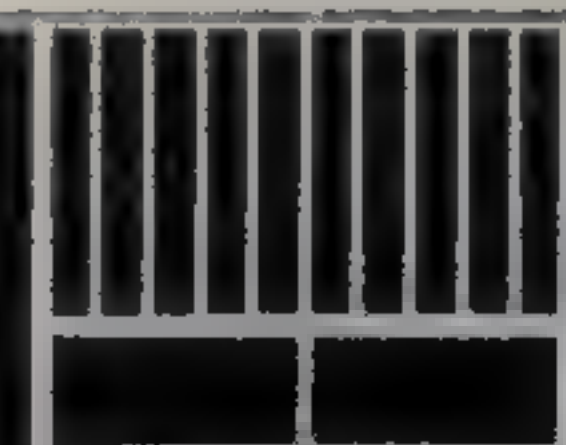
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I wrote to him last year about it - These
Nursery men of Erfurt (Germany) Haage &
Schmidt sent to A. Mollerhans, \$ 30.00 for
Pine & Palm seeds.



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valley under trees is very
"instructive", quite a treasure.
It proves that several characters
which were considered important
are variable. If I gave you a
specimen, which I think I did,
please examine the calyx - you
will find it membranous, often slit
("spathaceous") even lobed, without
any calyx lobes  all evidently
effect of pressure, crowded flowers.
Have you any Gentians, from
Utah?

Got a package & letter from
Siler today. Says he has 200
specimens of dried plants for \$17.50
- he seems slovenly and so maybe
his specimens - Is it worth while
to buy? perhaps as an act of
encouragement?

Will collect seeds for me to pay.
I can not make such an arrange-
ment, but will - considering -



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Nov 10 94

advise him some

Have not heard from Johnson.
since I wrote him not to send
those immense Casts.

Oaks:— Greene has sent
some good things from California
one especially, and to me quite
new one, and

I have made out a good
thing, viz: Torrey's figure of *Q. undulata*
is artificial. In the Herb. there are
some fruits, small, much like ~~stems~~
attached to the branch — but a
loose large acorn in same sheet
very different, perhaps *Q. alba*,
which the artist has stuck on the
branch in place of the smaller, in-
significant ones. Nuttall in Sylva
copies or rather remodels Torrey's
figure! Torrey himself in
later years doubted this acorn.
Thus the last doubt about
the identity of the species



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vanishes. We may now
say:

- Q. undulata* Torr. 1828 charact. emend.
a. ~~var.~~ ^{subsp.} *Gambelii* largest, broadest
leaves, lobes notched or lobed, obtuse
b. *Gunnisoni*, leaves rather smaller
lobes narrower, entire, obtuse
c. *Janusii* leaves smaller, lobes
acute or mucronate entire
d. *Emoryi* leaves smallest, lobes
reduced to spinulose - aristate teeth

What has come over our
good friends the Yankees - to drop
their great Butler ??

Well - so far, so good -

I forgot to say that Bolander
sends again. Comes and after receipt
of my Concolor says that is his
grandis from the mountains of Calif.
of which he also sends a specimen ^{cone}
(but no leaves !!)

Ever yours

G. Engelmann

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St Louis 16 Dec 1874

Dear Fanny

to allay your & Mrs P's anxiety I write at once, that Mrs E is very well, except That Ludicrous Wrist, which is still weak and swollen, is kept bandaged, and will hardly be well before a few months.

Did you not meet with *Symphoricarpos longiflorus*, which Miss Seabrook discovered in Pahrangat Mountain, I cast Nevada?

Your oaks were very welcome. First that *Arbutus* is my *divaricata*,⁺ but without fl & fr. "more sure" no date! You spoke of a *Arb.* on juniper. What has become of it. x Discovered by feathers on same tree, rec^d since from Arizona.

Think *Gentiana* is *G. scabra*.

The ~~three~~ smaller oaks are *G. Emoryi*, one sp. shows the few old leaves



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of last year. They look a little
different from the Arkansan Canyon
Crash.

The two others are what they have
called *G. alba Greenisoni* — a form
of *G. undulata*.

Yes Rothrock made this and
several other mistakes, whereupon
I wrote a pretty sharp letter to Gray.
There is confusion but not in the
originals. I happen to get *Gent. simplex*
from Greene this fall, but with exact
ciliate corolla lobes! And the plant
distrib. as *simplex* in Polander's
coll is really a close-shaved
G. detonsa. But both species are
widely distinct by their seeds, etc.
Simplex, *umbellata* & *detonsa* are all good
but *detonsa* & *crinita* too near to get.

I got today notice that a box
\$30 & weight has been sent by
Johnson from Salt Lake.

I am afraid! Hope it will



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MISSOURI
BOTANICAL
GARDEN

16 Nov '74

be all right. I shall soon see.

Your juniper seeds ver^o. Don't know what can affect them; incomplete pollination?

Yes, I have got in same package (arrived while in Colorado) from you larger cones of *Abies concolor* and very young, small deep purple ones, just past flowering of *A. grandis*, so called. Because they were so different in size & development, I thought the latter were collected earlier. But you say now that both were gathered in ~~Pine Valley, June 12th~~ middle of July near Cedar City.

"Pine Valley, June 12th" must refer to some other notice of yours not now recollected.

Among Rothrock's assumptions is to speak of *Abies balsamea*, no *juniper* ~~there~~ — I suspect even *Keiskeeria* does not grow so far south.

Now about Bolander & his *Abies*



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B. has not seen our grandis. I have
not yet reexamined Oregon specimens,
but if not mistaken now, our grandis
is Douglas' plant and grows from the
Cascades to Montana Idaho & Colorado
and as far ~~as~~ ^{on} the southern Utah - There-
fore I added to it the similar forms
of the Californian coast and of the Sierra
Nevada, except the largest tree with
the largest cones, found ~~about~~ ^{at} the Big Trees.
This latter is A. Magnifica Mann & it ~~is~~ ^{is} a variety
of Bolander (not Douglas I think)

Now B. says that the tree of the
Sierras is my concolor, he sends cones
(from seed store?) but no foliage.
He may be right - and a good deal is to
be cleared up yet. -

Have you found any Erythraea?

When do you distribute your sets?

Yours truly

G. Engelmann

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Had a letter from Duncan also Mrs E one from
Mr P. - How is our contortious friend?
You forgot to send me a few copies of your
Wyoming paper.



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St Louis Nov 24 1874

Dear Parry

I wrote to you on the
16th - no answer! but thanks for the
Yellowstone botany, which came probably
"in lieu" of a letter.

More questions, "more sue"!
Overhauling *Abies* which must now
soon come to a conclusion, I find
that our *Colombo grandis* has been
correctly named so; it is the Columbia
River plant, and I have it from
Idaho, Montana and Oregon.

It is certainly very near *balsamea*
but I think fully distinct.

Now for a lecture about your
Slovenly way of labeling specimens:

I have from you the following *Colombo*
specimens: Specimen with cone 1864 ~~Feb?~~
no doubt Clear Creek but nothing said
Hall 1862 with fruit, probably same locality



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Male flowering sp. South Park June 20
1862 —

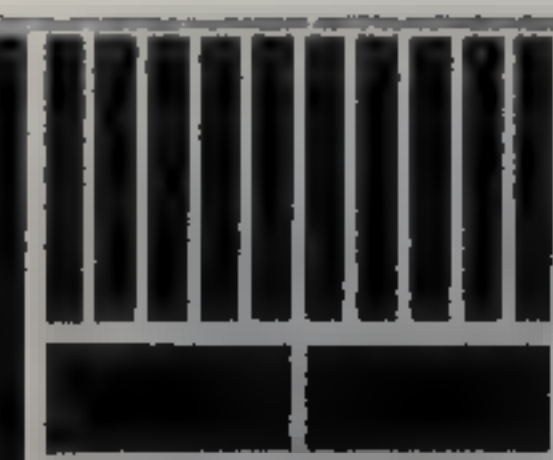
female fl. "June 1862". This on
account of similar date no doubt also
South Park. — Where collected in
South Park? what altitude, what
association?

Happily I had either from letter
or verbal information written "South
park" on the label.

Nothing more about *Concolor*;
it is not yet settled whether it is
= *Bolanderi grandis*, and our *grandis*
does not go down to California.

I have among my Canyon
plants *Amblygne Torreyi* Gray;
Brandegee, whom I asked what it
was: oh, some *Amarantus*!
But it looked odd to me and I brought
a specimen.

Have got several packages from
Siler. Seed of *A. concolor*: styled
5-7, mostly 6 — but seed evidently



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Nov 29 '74

gathered too early, embryos shrivelled.

therefore probably good for nothing.

berries of Junip. Calif. excellent
seeds, Cotyled. 4-5 always. I enclose
a few berries. You will find that
the pulp is fibrous, without turpentine
resinules (which I showed you in *Empine*
in other species) so that you can eat
it without that strong taste (it is not
exactly palatable though) - Brandegee
said he had not been taught to eat
Acorns, - nor I Juniper berries - but,
~~then he sends you berries~~ the
other day are all without embryo, the
pulp dry - old! perhaps gathered
in spring - immature?

He also sends plenty of *Yucca*
"angustifolia" which, I am happy
to find is *Y. baccata*!! So much better!

I also got from him bark of old
and young *Abies concolor*; he says
the wood is only used where better can
not be had. Trunk 60 feet high, up to 3 feet
diam.



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I get notice that a box 130 H
from Johnson has arrived a month
ago at Salt Lake. Why don't
I get it? It will be an
elephant I fear.

Now, be a good boy and answer
my questions!

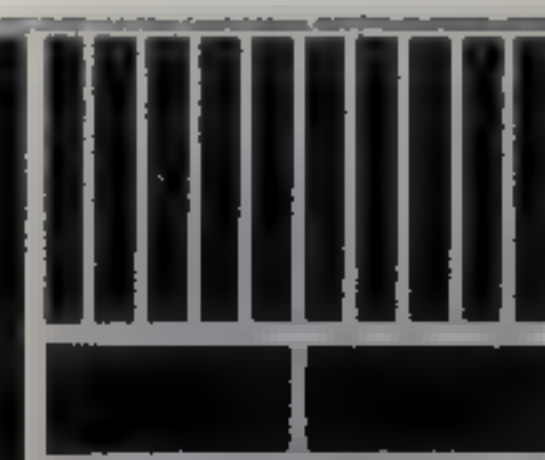
Yours Truly

Gr Engelmann

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GEORGE ENGELMANN PAPERS

Gentians have occupied me more
than oaks in the last week - I need
ones from California & Oregon.

I believe I reported about your oaks
I wanted to say more, but
forgot at this moment - will
have to write again.



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St Louis Dec 14 1874

My dear Perry

You throw cold water on my new born zeal
by saying that I was getting prompt! See
the consequence! your ^{last} letter is now three weeks
old not yet answered!

Yes, those confounded Abies have
troubled me all along. I did not collect
knowingly enough in Colorado, and find
new questions to answer or rather to ask.
I send you two forms of scales of your own
collecting. Can you make out or recollect
I suppose not. The usual Empire form
has narrow scales and long winged seeds,
but you sent in 1862 Broad scaled cones
also. Moreover, most of the other
Rocky Mts and Oreg (Hall's & Lyall's)
have broader or rather intermediate
scales. They are all the same
all purple, and are no doubt
grandis but the Californian



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A. grandis is different, and may
be my concolor? Want more
material! And all may after all
be *amabilis*!!?? Do you
decipher those signs?

"Poor Rotherick" as you call him
was here, and I prepared him
for what my letter to Gray would tell
him! He took it good naturedly
and made excuses for haste.

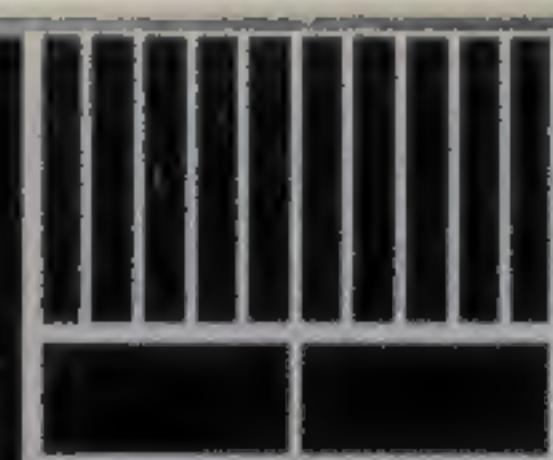
Your *Phoradendron juniperinum*
came to hand. It is common south
westward.

About *Aster*, I forgot that you
collected in "June 1862" in "South Park"
flowering sp. of *Aster grandis*;

Where and at what altitude?
It seems true *grandis*. — In Colorado
I neglected to get branches having
both male fls. for their foliage.
Must look to all that next year!!

Hayden wants a "Synopsis
of the Pines" I am not yet

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Dec 19, 74

prepared for it.

Well that box and bag has come
Overmuch seed of *Yucca baccata* - Casti
pretty good, *Agave* & *Y. brevif.* partly
rotten every thing too damp.

The worst of it is that the bag, which
is probably from the Brothers (no letter
etc about it) full of *A. Concolor*
but damp, mouldy, not mature
enough? I do not dare to
send it to Germany - useless
expense. Many cones entire
yet, which I saved; all small
some obtuse, other pointed; both
forms also otherwise different - two
forms of the species - will send
cones. Some cones of scales &
seeds of *grandis* among them;
these fall to pieces much more
readily than *Concolor*, as also
in Colorado; - they are of the narrow
souled form.

So the Elephant is here, and



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I do not know what to do with
it. Did you send pine cones,
cones, scales, and all to Europe?
Tell me soon.

Brandegee sends branches of *Quercus*
from other, higher localities, some
with long others with short broad leaves
like yours, suggests distinct
species!!

Not much is told of Governor & Military
but will go next season with a Col of Philadelphia
boys as tutor to Colonel - naturalizing
hunting, fishing etc - \$100 a piece. If
they be bad boys he will have his hands
full and the military training he had
this season may teach him how to
manage!

Nothing from Duran. - My wife
had a letter from Mrs Putnam -

"Poor, unhappy, contortious B."

Pack sent me a ^{Georgetown} paper with the account
of coach & six to Hot Springs, Middle Park
No romance in M.P. any more - so we
won't go! Mrs E's nail came off yesterday!
so she still remembers L. I. Strom but
yours truly J. E. Agnew



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